HINTS TO HOUSEHOLDERS FOR THE PREVENTION AND FIGHTING OF FIRES



DIVISION OF EMERGENCY PLANNING—SURVIVAL BROCHURE No. 3

1. INTRODUCTION:

Fire renders a great service to the community but it can also develop into a powerful and ruthless enemy which often claims human lives and destroys property, enormous damage being caused every day.

During the period from 1957 to 1962, no fewer than 8,745 fires to which professional and voluntary fire-fighters were summoned, occurred in buildings in the Republic. These relate only to areas where professional or voluntary fire-fighting services are available and cover only a limited portion of the country. The figures for the whole of the Republic will undoubtedly be higher.

Although in most cities and towns the task of fire-fighting rests on the shoulders of municipal fire-fighting services, it is nevertheless of the utmost importance that every householder should have a basic knowledge of this subject. Circumstances may arise in which fire-departments will be unable to react upon a call immediately or to fight all fires in an emergency. Fire-fighting in the home will then be the responsibility of the occupier himself. By taking quick action he can extinguish a fire while it is still in the initial stage, provided he knows what to do and which equipment to use.

A scientific analysis shows that fires are caused mainly by:-

- electricity:

- dirty chimneys;

- heaters (other than electric);

— the careless handling of inflammable liquids;
— children playing with matches;
— the smoking habit (pipe or cigarettes);
— the burning of grass and rubbish;

- candles.

These things form part of our daily life and therefore the danger of fire constantly exists. Whether your house or even your neighbourhood will be spared the misery caused by fire, depends to a very large extent on you.

2. HOW FIRES ORIGINATE:

For the effective prevention and extinction of fires, it is necessary in the first place to know how a fire originates. Three basic elements are necessary for fire:-

- combustible material:

- heat to ignite the material; and

- air (oxygen) to feed the fire and keep it burning.

This fact can be illustrated with an ordinary match. Strike a match, and the sulphur ignites. Heat is released and the wooden part (combustible material) flames up. The oxygen in the air feeds the flame and keeps the match burning. Put the burning match in a bottle and replace the cork. The supply of oxygen is cut off and the flame goes out. Put a burning match into water and the flame immediately dies. The water has cooled the match and eliminated the essential element, namely heat.



SMOTHERING—COOLING

Most fires can be extinguished by cutting off the supply of air (smothering) or by removing the heat (cooling down). Burning liquids such as petrol and oil are usually smothered, while burning solid materials such as wood and paper are generally extinguished by cooling them with water.

3. HOW FIRE SPREADS:

Fire can be spread by:

- solid material such as a metal sheet which is incombustible but which

may become hot enough to ignite any inflammable material with which it comes into contact, e.g. chimney pipes in contact with wood;

—flying sparks or a draught of hot air, it being a common experience that, as a result of a fire on the ground floor of a building, overheated air rises through lift shafts or staircases to higher floors where it accumulates and causes a fire although no fire is raging on intermediate floors;
—the radiation of heat from a burning building or object which ignites

nearby buildings or objects; and

- direct contact.

4. NECESSARY PRECAUTIONS:

Clean Buildings.—Firemen allege that fires seldom occur in clean buildings. Most fires originate in accumulated lumber. Storerooms, basements and attics are the greatest sources of fires. Tidiness is therefore the most important preventive measure.

Disposal of Lumber and Rubbish.—Accumulated lumber and rubbish in backyards, in corridors between buildings and on vacant lots are common sources of fire. Such material should be burned after steps have been taken to prevent the fire from spreading.

Roof Space.—Most modern buildings have no attics, but only a limited space between the roof and the ceiling. Unimpeded access to this space by means of a trap-door is of the utmost importance. Always keep a ladder at hand so that fires which originate in this space can be reached and extinguished without delay.

Close Doors and Windows.—Close all doors and windows when you leave a building. If inner doors are also closed, the fire will for a considerable time be confined to the room in which it originated, and spreading to other rooms will thus be delayed. Electricity.—Statistics show that during the period from 1957 to 1962 electricity caused 1,609 fires in buildings. In many instances fires originate as a result of short-circuits on account of—

- the electric current being overloaded owing to numerous appliances being connected to one power-point;
- O flat-irons not being switched off after use;
- old and worn-out electric cord being used and laid under a carpet or stapled to baseboards and door frames.
- Have the electric wiring and appliances in your home checked regularly by a qualified electrician.
- If the electric fuses often burn out, consult an electrician. A dangerous defect may be the cause of the trouble.
- Remember to switch off the electricity supply to your house at the main switch when leaving on holiday.

Defective Heating.—Defective fire-places, stoves and other heating appliances can cause fires. Chimneys full of soot can easily catch fire, and chimneys made of galvanised iron or iron piping which lead through ceilings or are installed near woodwork, can ignite such combustible material. Have chimneys cleaned out regularly and replace corroded and broken pipes and connections.

Inflammable Material.—Ensure that inflammable material such as magazines, newspapers and clothing are not placed near heaters, open fire-places or stoves and that paper lampshades do not come into contact with bulbs.

Inflammable Liquids.—Highly inflammable liquids such as benzine, methylated spirits and petrol are used every day in our homes. When the vapour from such liquids mixes with air, it fills the whole house and the slightest spark may cause it to explode. Petrol or paraffin should never be used to start or brisk up a fire.

If circumstances necessitate the keeping of inflammable liquids in the house, the quantity should be limited to not more than one pint. Such liquids should also be kept in a corked container and in a safe place.

Lamps and heaters using paraffin as fuel should be filled outside the house and away from any fires.

Matches.—Matches may appear to be harmless but they become a great danger when young children get hold of them. Keep matches and cigarette lighters out of their reach.

The Smoking Habit.—Negligent smokers caused 1,059 fires in buildings during the period from 1957 to 1962. The persons concerned fell asleep with a pipe or cigarette in the hand or threw burning matches or cigarette ends into waste-paper baskets. Provide sufficient ashtrays in the house and do not smoke your last cigarette of the day in bed.

Grass Fires.—People often burn grass or rubbish without taking prior steps to ensure that the fire will not spread—often with fatal results.

During the period from 1957 to 1962 fire-brigades were called out to fight 15,874 grass fires. Greater care would have prevented the spreading of these fires.

Drying of Clothes.—Clothing or linen should never be dried near or over stoves or other heating appliances.

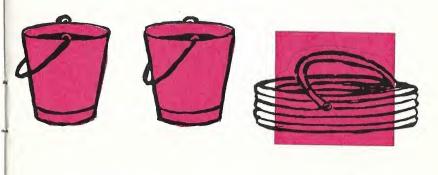
Fat and Oil.—If fat or oil ignites, do not attempt to extinguish the flames with water. Smother the flames with a lid, a wet rag or sand.

Ashes from a Stove or Fire-place.—Hot ashes removed from stoves or fire-places should be placed in metal containers outside the house.

5. EQUIPMENT FOR FIRE-FIGHTING:

Simple apparatus with which fires can be extinguished, should be kept at hand in every home.

- A wet broom or mat will help to cool off and smother small fires.
- An ordinary garden hose, a stirrup pump or tree spray pump, buckets filled with sand or water, a ladder, an axe and a spade are efficient equipment.
- Keep a number of fire-buckets filled with water at hand. Water is the simplest and most effective weapon against most fires. You never know when the water supply to your house will be interrupted. The water in the buckets can be used to extinguish a fire with the aid of a stirrup pump or a tree spray pump.
- At least one tap to which a garden hose can be connected, should be installed in the house. Store the garden hose in a place where it is readily accessible. A garden hose is useful, but the stirrup pump and tree spray pump remain important since the water supply may be interrupted and the garden hose will then be useless.
- A ladder is often useful. Hang it against a wall in a sheltered place to prevent unnecessary weathering.



SAND

WATER

GARDEN HOSE

Acquire a fire-extinguisher.—One or more fire-extinguishers should be mounted in a central position in every house. Keep the following points in mind when purchasing a fire-extinguisher.



- The weight should be such that children of about 12 years of age will be able to handle the extinguisher.
- Ascertain which type is most suitable for the purpose for which it is acquired.
- The seller must demonstrate the working of the extinguisher to all members of the family so that they can be conversant with it.

6. WAYS OF FIRE-FIGHTING:

There are three ways of fighting a fire effectively:-

- by removing the burning object from the house;
- by cutting off the air (oxygen) supply in order to smother the fire;
- by cooling the burning object with water.

If the burning object can be removed, this must be done quickly, and the flames must be extinguished with water or sand outside the house.

If the burning object cannot be removed from the house, you should get as near as possible to it and attempt to extinguish the fire with water or other suitable material. Cool the surroundings off with water in order to prevent the fire from spreading. Small fires can be smothered with a mat or some other heavy material.

Leave in Good Time.—If it appears that the fire cannot be extinguished without the aid of the fire-brigade, all persons should evacuate the building before they are trapped.

Use Your Handkerchief and Crawl.—If the smoke in the house is already dense, put a handkerchief over your mouth and nose and crawl close to the walls to the exit on your hands and knees. Avoid the middle of the floor since it may collapse.

Be Careful on Staircases.—Fire may weaken stairs. Tread carefully when going down stairs and keep to the walls. Do not run and first test the solidity of each stair before stepping on to it.



Escape through a Window.—If steps are dangerous or useless, look for a window. Hang from the window-sill by your fingertips and then let go. The height of the drop will thus be reduced by about seven feet. If you are trapped on a second or higher floor, tie blankets and/or sheets together to form a rope and secure one end to a heavy piece of furniture. Descend hand over hand down the rope.

Call for Help.—If you cannot escape without assistance, close the doors of the room in which you are trapped and call for help through the window. The closed door will temporarily check the heat and flames. A folded blanket or towel placed on the floor against the door will prevent smoke from entering the room.

ESCAPE THROUGH A WINDOW

8. FIRE IN YOUR HOUSE-HOW TO ACT:

If there is a fire-fighting service available in your area, phone it. Every member of the family should memorise the telephone number.

Householders should do everything in their power to extinguish a fire or to prevent it from spreading. Should their efforts prove unavailing and the assistance of the fire-brigade is required, they should evacuate the house before they are trapped. They should decide without delay on the safest way of escape. Before they leave, they should, if possible, close the door of the room in which the fire is raging in order to delay the spread of the fire.

THE CLOSED DOOR WILL TEMPORARILY STIFLE FLAMES

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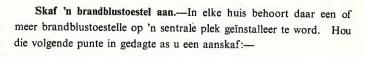


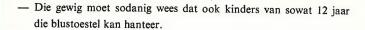
DIE TOE DEUR SAL Vlamme tydelik stuit

Die huisbewoners moet self alles in hul vermoë doen om die brand te blus of sover moontlik te beperk. As hul pogings tevergeefs is en die brandweer se hulp ingeroep moet word, moet hulle die huis onfruim voordat hulle wasgekeer word. Hulle moet sonder versuim op die veiligste manier van die vertrek waarin die padgee, moet hulle, indien moontlik, die deur van die vertrek waarin die brand woed, toemaak ten einde die versespreiding van die brand te vertraag.

As daar 'n brandweerdiens in u gebied beskikbaar is, bel die brandweer. Elke lid van die gesin moet die telefoonnommer memoriseer.

8, BRAND IN U HUIS-HOE OM OP TE TREE:





- Stel vas watter tipe die geskikste is vir die doel waarvoor dit aangeskaf word.
- Die verkoper moet die werking daarvan aan al die lede van die gesin demonstreer sodat hulle daarmee vertroud is.

6. MANIERE OM 'N BRAND TE BESTRY:

Daar is drie maniere om 'n brand doeltreffend te bestry:-

- deur die artikel wat brand, uit die huis te verwyder;
- deur die lugtoevoer (suurstof) af te sluit ten einde die brand te smoor;
- deur die brandende artikel met water af te koel.

Indien die brandende artikel verwyder kan word, moet dit vinnig gedoen en die vlamme buitekant met water of sand geblus word.

As die brandende artikel nie uit die huis verwyder kan word nie, moet u so naby as moontlik daaraan probeer kom om dit met water of 'n ander geskikte stof te blus. Koel die omgewing met water af om verspreiding van die brand te verhoed. Klein brande kan met 'n mat of die een of ander swaar materiaal gesmoor word.

Gee betyds pad.—As dit blyk dat die brand nie sonder die hulp van die brandweer geblus kan word nie, moet alle persone die gebou ontruim voordat hulle vasgekeer word

Gebruik u sakdoek en kruip.—As die rook in die huis reeds dig is, bind 'n sakdoek om die mond en neus en kruip op hande en knieë langs die mure na die uitgang. Vermy die middel van die vloer aangesien dit ineen kan stort.

Wees versigtig op trappe.—'n Brand kan trappe verswak. Loop versigtig aan die muur se kant teen die trappe af. Moenie hardloop nie en toets eers of elke trappie nog stewig is voordat u daarop trap.



ONTVLUG DEUR 'N VENSTER Ontvlug deur 'n venster.—As die trappe gevaarlik of onbruikbaar is, soek 'n venster. Hang met u vingerpunte aan die vensterbank en laat dan los. Daardeur verminder u die hoogte van die val met sowat sewe voet. As u op 'n tweede of hoër verdieping vasgekeer word, knoop komberse en/of lakens aanmekaar en maak die een punt aan 'n swaar meubelstuk vas. Klim dan hand oor hand daarteen af.

Roep om hulp.—As u nie sonder hulp kan ontsnap nie, maak die deure van die vertrek waarin u vasgekeer is toe en roep deur die venster om hulp. Die toe deur sal die hitte en vlamme tydelik stuit. 'n Opgevoude kombers of handdoek onder teen die deur geplaas, sal help om die rook uit te hou.

Elektrisiteit.—Statistieke toon dat elektrisiteit gedurende die tydperk 1957 tot 1962 altesaam 1,609 brande in geboue veroorsaak het. In baie gevalle ontstaan brande as gevolg van kortsluitings deurdat—

- O die elektriese stroom oorlaai word deur die verbinding van talle apparate aan een kragpunt;
- O strykysters ná gebruik nie afgeskakel is nie;
- O ou en deurgeslyte elektriese koord gebruik en onder vloerbedekkings deurgelei of aan lyste en deurkosyne vasgespyker is.
- Laat die elektriese bedrading en toestelle in u huis gereeld deur 'n gekwalifiseerde elektrisiën nagaan.
- As sekerings dikwels smelt, raadpleeg 'n elektrisiën. 'n Gevaarlike fout kan die oorsaak van die moeilikheid wees.
- Onthou om die elektrisiteitstoevoer na u huis by die hoofskakelaar af te sluit wanneer u met vakansie vertrek.

Defektiewe verwarming.—Defekte kaggels, stowe en ander verwarmingsapparate kan brande laat ontstaan. Skoorstene met roet aangepak, kan maklik aan die brand slaan en skoorstene van gegalvaniseerde yster of ysterpyp wat deur plafonne steek of naby houtwerk aangebring is, kan sulke brandbare materiaal laat ontvlam. Laat skoorstene gereeld skoonmaak, en vervang geroeste en stukkende pype en aansluitings.

Ontvlambare materiaal.—Sorg dat maklik ontvlambare materiaal soos tydskrifte, koerante en klerasie nie naby verwarmers, oop kaggels of stowe geplaas word nie en dat papierlampskerms nie aan gloeilampe raak nie.

Ontvlambare vloeistowwe.—Hoogs ontvlambare vloeistowwe soos bensien, brandspiritus en petrol word daagliks in ons huise gebruik. Wanneer die dampe wat dit afgee met lug meng, trek dit deur die hele huis en die geringste vonk kan dit laat ontplof.

Petrol of lampolie moet nooit gebruik word om 'n vuur mee aan die gang te kry of aan te wakker nie.

As die omstandighede dit noodsaak dat ontvlambare vloeistowwe in die huis gehou moet word, moet die hoeveelheid tot hoogstens een pint beperk word. Sulke vloeistowwe moet ook in 'n styf toegekurkte houer en op 'n veilige plek gebêre word.

Lampe en verwarmers waarin lampolie as brandstof gebruik word, moet buite die huis, weg van enige vlam, gevul word.

Vuurhoutjies.—Vuurhoutjies mag baie onskuldig voorkom maar word 'n groot gevaar wanneer jong kinders dit in die hande kry. Bêre vuurhoutjies en sigaretaanstekers buite hul bereik.

Die rookgewoonte.—Nalatige rokers het van 1957 tot 1962 'n totaal van 1,059 brande in geboue veroorsaak. Die betrokke persone het aan die slaap geraak met 'n pyp of sigaret in die hand of brandende vuurhoutjies of sigaretstompies in snippernandjies gegooi. Sorg vir genoeg asbakkies in die huis en moenie u laaste sigaret vir die dag rook terwyl u reeds in die bed is nie.

Grasbrande.—Mense brand dikwels gras en vullis sonder om vooraf te verseker dat die vlamme nie sal versprei nie—dikwels met noodlottige gevolge.

Vanaf 1957 tot 1962 is die brandweer ontbied om 15,874 grasbrande te blus. Groter versigtigheid sou die verspreiding van hierdie brande voorkom het.

Droogmaak van klere.—Klere of linne moet nooit in die nabyheid van of oor stowe of ander verwarmingstoestelle drooggemaak word nie.

Vet en olie.—As vet of olie aan die brand slaan, moenie probeer om die vlamme met water te blus nie. Smoor die vlamme met 'n deksel, 'n nat lap of sand.

As uit 'n stoof of kaggel.—Warm as wat uit stowe of kaggels verwyder word, moet buite die huis in metaalhouers geplaas word.

5. TOERUSTING VIR BRANDBESTRYDING:

In elke huis behoort daar eenvoudige apparate byderhand te wees waarmee brand bestry kan word.

- 'n Nat besem of mat sal baie help om klein vure af te koel en te smoor.
- 'n Gewone tuinslang, 'n sprinkaan- of boomspuit, enmers gevul met sand of water, 'n leer, 'n byl en 'n graaf is doeltreffende toerusting.
- Hou 'n aantal brandemmers vol water byderhand. Water is die eenvoudigste en doeltreffendste wapen teen die meeste brande. U weet nooit wanneer die watertoevoer na u huis onderbreek kan word nie. Die water in die emmers kan deur middel van 'n sprinkaan- of boomspuit teen brand gebruik word.
- Minstens een kraan waaraan 'n tuinslang gekoppel kan word, behoort binne-in die huis aangebring te word. Bêre die tuinslang waar dit maklik bereikbaar is. 'n Tuinslang is nuttig, maar die sprinkaan- en boomspuit bly belangrik omdat die watertoevoer onderbreek kan word en die tuinslang dan nutteloos sal wees.
- 'n Leer is dikwels nuttig. Hang dit onderdak teen 'n muur op om onnodige verwering te voorkom.







SAND

WATER

GEWONE TUINSLANG

1. INLEIDING:

Vuur lewer 'n groot diens aan die samelewing, maar dit kan ook tot 'n magtige en genadelose vyand ontwikkel wat dikwels menselewens eis en eiendom vernietig. Geweldige skade word dan ook daagliks deur brande veroorsaak.

Vanaf 1957 tot 1962 het nie minder nie as 8,745 brande in geboue in die Republiek ontstaan waarheen professionele en vrywillige brandweerwerkers ontbied is. Hierdie syfers het alleen betrekking op die gebiede waar professionele of vrywillige brandweerdienste beskikbaar is en dit dek maar 'n beperkte gedeelte van die land. Die syfers vir die Republiek as geheel sal stellig hoër wees.

Hoewel die taak van brandbestryding in die meeste stede en dorpe op die skouers van die munisipale brandweerafdelings rus, is dit nogtans van die allergrootste belang dat elke huisbewoner oor 'n basiese kennis van dié onderwerp moet beskik. Daar kan omstandighede ontstaan waarin die brandweerafdelings nie in staat sal wees om onmiddellik op 'n oproep te reageer of in noodtoestande alle brande te bestry nie. Brandbestryding in die huis sal dan die verantwoordelikheid van die bewoner self wees. Hy kan deur vinnige optrede self 'n brand wat nog in die beginstadium is, blus mits hy weet hoe om op te tree en watter toerusting om te gebruik.

'n Wetenskaplike ontleding toon dat brande hoofsaaklik veroorsaak word deur:-

- elektrisiteit;

- vuil skoorstene;

- verwarmers (nie-elektriese tipes);

- onverskillige hantering van ontvlambare vloeistowwe;

vuurhoutjies waarmee kinders speel;
 die rookgewoonte (pyp of sigarette);

— brand van gras en vullis;

- kerse.

Hierdie dinge maak deel van ons daaglikse lewe uit en daarom bestaan die gevaar van brand voortdurend. Dit hang dus in 'n baie groot mate van u persoonlik af of u woning en selfs u omgewing die ellende wat deur brande veroorsaak kan word, gespaar sal bly.

2. HOE BRANDE ONTSTAAN;

Ten einde brande doeltreffend te voorkom en te blus, is dit eerstens nodig om te weet hoe 'n brand ontstaan. Vir vuur is drie basiese elemente nodig:—

- brandbare materiaal:

- hitte om die materiaal te laat ontvlam; en

- lug (suurstof) om die vuur te voed en aan die gang te hou.

Hierdie feit kan met 'n gewone vuurhoutjie geïllustreer word. Trek 'n vuurhoutjie en die swawel vat vlam. Hitte word vrygestel en die houtgedeelte (die brandbare nateriaal) begin brand. Die suurstof in die lug voed die vlam en hou die vuurhoutjie aan die brand. Plaas die brandende vuurhoutjie in 'n bottel en maak die bottel toe. Die suurstoftoevoer word afgesluit en die vlam gaan dood. Steek 'n brandende vuurhoutjie in water en die vlam gaan onmiddellik dood. Die water het die vuurhoutjie afgekoel en die noodsaaklike element, nl. hitte, uitgeskakel.

SMORING-AFKOELING

Die meeste brande kan of deur die lugtoevoer af te sluit (smoring) of deur die verwydering van hitte (afkoeling) geblus word. Brandende vloeistowwe soos petrol en olie word gewoonlik gesmoor, terwyl brandende vaste stowwe soos hout en papier in die reël deur afkoeling met water geblus word.

3. HOE 'N BRAND VERSPREI:

Brand kan versprei word deur:-

— 'n vaste stof soos 'n metaalplaat, wat self nie brand nie, maar warm genoeg word om enige brandbare stof waarmee dit in aanraking kom, te laat ontvlam, byvoorbeeld skoorsteenpype wat met hout in aan-

raking kom;

— vonke wat deur die lug trek of deur 'n warm lugstroom. Daar word dikwels ondervind dat oorverhitte lug as gevolg van brand op die grondverdieping van 'n gebou deur 'n hyserskag of trapopening na die hoër verdieping styg, waar dit versamel en 'n brand veroorsaak ondanks die feit dat geen brand op die tussenvloere voorkom nie;

 die uitstraling van hitte uit 'n brandende gebou of voorwerp, wat dan ander nabygeleë geboue of voorwerpe laat ontvlam; en

- direkte kontak.

4. NODIGE VOORSORGSMAATREËLS:

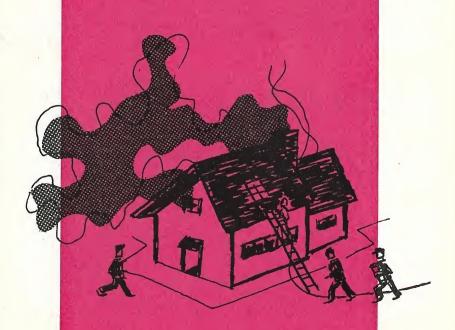
Skoon geboue.—Brandweerbeamptes beweer dat brande selde in skoon geboue voorkom. Die meeste brande ontstaan in opgegaarde rommel. Pakkamers, kelders en solderkamers is die plekke waar brand meestal sy ontstaan het. Netheid is die belangrikste voorkomingsmaatreël.

Vernietiging van rommel en vullis.—Opgegaarde rommel en vullis in agterplase, in gange tussen geboue en op onbeboude persele is algemene bronne van brandgevaar. Sulke materiaal behoort verbrand te word nadat maatreëls vooraf getref is om die verspreiding van die vuur te voorkom.

Dakruimte.—Die meeste moderne geboue het geen solderkamers nie, maar slegs 'n beperkte ruimte tussen die dak en die plafon. Onbelemmerde toegang tot hierdie ruimte deur middel van 'n valluik is van die allergrootste belang. Hou altyd 'n leer byderhand sodat brande wat in dié ruimte ontstaan sonder versuim bereik en bestry kan word.

Maak deure en vensters toe.—Maak alle deure en vensters toe wanneer u 'n gebou verlaat. As die binnedeure ook toe is, sal brand 'n geruime tyd beperk word tot die vertrek waarin dit ontstaan het en die verspreiding daarvan na ander vertrekke sodoende vertraag word.

WENKE AAN HUISBEWONERS VIR VOORKOMING EN BEVEGTING VAN BRAND



AFDELING NOODBEPLANNING-OORLEWINGSBROSJURE No. 3